

WHAT IS CLAIMED IS:

1. An optical fingerprint input device for a mobile apparatus comprising:
 - a fingerprint input member made of a thin plate-shaped and light-
5 penetrative material, and formed thereon with an incident surface for receiving
fingerprint images and an inclined surface at one side contacting the incident
surface;
 - a distortion correcting member made of a box-shaped and light
penetrative material and disposed with an incident surface opposite to the
10 inclined surface of said fingerprint input member and an inclined surface
oppositely formed to the incident surface of said distortion correcting member
and reversely inclined relative to the inclined surface of said fingerprint input
member;
 - an image-forming unit for forming fingerprint images penetratively
15 reflected from the inclined surface of said distortion correcting member; and
 - an image sensor for receiving the fingerprint images formed by said
image forming unit to generate a signal corresponding to the input images.
2. The device as defined in claim 1, wherein the image-forming unit
20 comprises:
 - a cylindrical lens for shrinking and enlarging a length in any one

direction of an image and a spherical lens for forming images.

3. The device as defined in claim 3, wherein the image forming unit further comprises means for converting directions of beam lights.

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4. The device as defined in claim 1, wherein said fingerprint input member is disposed on top of a liquid crystal display element of a mobile apparatus so as to be integrated with a display device of the mobile apparatus, such that a back light module for the liquid crystal display element can be commonly used as a
10 light source for the fingerprint input member and the display device of the mobile apparatus.

5. The device as defined in claim 1, wherein an angle of the inclined surface at said fingerprint input member is so established as to discriminate
15 sweat, water or oil.

6. The device as defined in any one of claims 1 to 4, further comprising:
a reflecting member for blocking fingerprint images penetratively coming from said image forming unit and for allowing other images coming
20 from the other side of the mobile apparatus to be inputted in said image sensor;
and

moving means for moving said reflecting member according to a user's choice between a point for blocking a light path between said image forming unit and said image sensor and a point for not blocking the light path, such that a single image sensor can be commonly utilized for both fingerprint input and
5 camera phone of the mobile apparatus.

7. The device as defined in claim 6, wherein said reflecting member is integrally formed with a lens module for forming other images inputted from the other sides of the mobile apparatus to prompt said reflecting member and said
10 lens module to be moved together by said moving means.